

***Yucca glauca* / *Calamovilfa longifolia* Shrub Herbaceous Vegetation**

COMMON NAME	Soapweed Yucca / Prairie Sandreed Shrub Herbaceous Vegetation
SYNONYM	Soapweed / Prairie Sandreed Shrub Prairie
PHYSIOGNOMIC CLASS	Herbaceous Vegetation (V)
PHYSIOGNOMIC SUBCLASS	Perennial graminoid vegetation (V.A)
PHYSIOGNOMIC GROUP	Temperate or subpolar grassland with a sparse shrub layer (V.A.7)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (V.A.7.N)
FORMATION	Medium-tall temperate grassland with a sparse xeromorphic (often thorny) shrub layer (V.A.7.N.h)
ALLIANCE	YUCCA GLAUCA SHRUB HERBACEOUS ALLIANCE
CLASSIFICATION CONFIDENCE LEVEL	2
USFWS WETLAND SYSTEM	Terrestrial

RANGE

***Lacreek National Wildlife Refuge***

*Yucca* shrub grasslands occupy sandy ridges and undulating sand dunes within the sandhills region of the Refuge.

***Globally***

This type is found in the northwestern Great Plains, including eastern Wyoming and Montana, and western South Dakota.

ENVIRONMENTAL DESCRIPTION

***Lacreek National Wildlife Refuge***

*Yucca* shrub grasslands occur most commonly as sparse shrublands in the sandhills region. These shrublands are also associated with sand hill complexes, where they occupy the lower sandy ridges as the dominant shrub, but also intergrade with other soapweed yucca types on sandy slopes and hills.

***Globally***

Stands dominated by *Hesperostipa comata* are more typically found only along sandstone outcrop ridge tops and a short distance down the adjacent slopes (the *Yucca glauca* / *Hesperostipa comata* association of Thilenius *et al.* 1995). Soils are relatively deep (> 1 m), pure sands, with medium to coarse-textured lower horizons. The substrate is well-drained, but not xeric. Stands with *Calamovilfa longifolia* occur on a broader range of ridge tops and upper slopes (*Yucca glauca* / *Calamovilfa longifolia* association of Thilenius *et al.* 1995).

MOST ABUNDANT SPECIES

***Lacreek National Wildlife Refuge***

<u>Stratum</u>	<u>Species</u>
Shrub	<i>Yucca glauca</i>
Herbaceous	<i>Bromus tectorum</i> , <i>Carex filifolia</i> , <i>Sporobolus cryptandrus</i> , <i>Bouteloua gracilis</i>

**Globally**

Stratum

Species

Short Shrub *Yucca glauca*

Graminoid *Bouteloua gracilis*, *Calamovilfa longifolia*, *Carex filifolia*, *Hesperostipa comata*

**CHARACTERISTIC SPECIES**

***Lacreek National Wildlife Refuge***

*Yucca glauca*, *Bouteloua gracilis*, *Sporobolus cryptandrus*, *Calamovilfa longifolia*, *Carex filifolia*

**Globally**

*Bouteloua gracilis*, *Calamovilfa longifolia*, *Hesperostipa comata*, *Yucca glauca*

**OTHER NOTABLE SPECIES**

**VEGETATION DESCRIPTION**

***Lacreek National Wildlife Refuge***

*Yucca* shrub grasslands have a sparse cover of yucca (*Yucca glauca*) shrubs, typically between 15-25%, but they usually have good cover in the herbaceous stratum. This plant association rarely has other shrubs present; rather, the understory species change relative to soil types. On silty clay to clay soils, threadleaf sedge (*Carex filifolia*) dominates, while on sandy-clay soils needle-and-thread (*Hesperostipa comata*) provides dense understory cover. Sandy ridges dominated by yucca also support prairie sand-reed grass (*Calamovilfa longifolia*), sand dropseed (*Sporobolus cryptandrus*), sand bluestem (*Andropogon hallii*), and purple three-awn (*Aristida purpurea*) in abundance.

**Globally**

Stands contain an open to moderately dense (at least 10% cover), low-shrub layer above a species-rich herbaceous layer. Dominance of the shrub layer by *Yucca glauca* is characteristic (average cover in 6 stands was 9.8%). *Artemisia tridentata* ssp. *wyomingensis* and *Artemisia cana* ssp. *cana* may be present but are sparse and contribute little cover. In the herbaceous layer, *Hesperostipa comata* and *Calamovilfa longifolia* codominate (16% cover and 8% cover, respectively), and *Bouteloua gracilis* and *Carex filifolia* often are present but contribute much less cover than do *Hesperostipa* or *Calamovilfa*. Forbs are common but contribute little cover; *Artemisia frigida* (dwarf shrub-like) has the highest constancy, but no forb is characteristic of the association. Litter covers up to about half of the ground surface, and most of the rest of the ground surface is bare soil.

CONSERVATION RANK G4.

DATABASE CODE CEGL002675

**SIMILAR ASSOCIATIONS**

*Calamovilfa longifolia* – *Hesperstipa comata* Herbaceous Vegetation

COMMENTS

***LaCreek National Wildlife Refuge***

Soapweed yucca is common in the sandhills region of the Refuge and forms discrete map units based on density and associated species.

***Globally***

In Badlands National Park, South Dakota vegetation cover varies with soil conditions. Sandy soils have characteristic dominants, but on more silty clay soils, *Carex filifolia* and *Pascopyrum smithii* may dominate.

REFERENCES

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- Thilenius, J.F., and G.R. Brown. 1990. Vegetation on semi-arid rangelands, Cheyenne River Basin, Wyoming. Unpublished report prepared for USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Laramie, WY. 147 pp.
- USDA Soil Conservation Service. 1986. Technical guide to range sites, section II. Wyoming State Office, Casper, WY.

**Note:**

This association is found in two different map classes:

- 1) [Soapweed Yucca \(Sparse Understory\) Shrub Herbaceous Vegetation](#)
- 2) [Soapweed yucca / Needle-and-Thread Shrub Herbaceous Vegetation](#)